

# PATENT SPECIFICATION

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## (54) IMPROVEMENTS IN OR RELATING TO WATER FITTINGS

(71) We, BARKING BRASSWARE CO. LIMITED, a British Company, of 5 River Road, Barking, Essex, England, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to water fittings particularly but not exclusively to domestic fittings for use on sinks, basins, baths and the like.

Fairly recently some of the traditional brass domestic water fittings have been replaced by similar fittings of plastics material. These fittings offer a much cheaper alternative to brass fittings and through the use of metal finishes can be virtually indistinguishable from chromium plated brass fittings. Plastics materials are available which can withstand the temperature and pressure of domestic water systems and it is possible to provide on the one hand an inner functional part made of strong high-temperature plastics material and clad it with a more attractive outer casing made of plastics material more appropriate to supporting, for example, an attractive metallic finish. Reference can be had to our earlier patent applications 54951/74 (Serial No. 1,486,457), 33586/74 (Serial No. 1,505,648) and Serial Nos. 1,464,722 and 1,464,744.

Whilst these fittings look attractive and offer a considerable cost saving on their chrome plated brass counterparts, nevertheless the plastics material is obviously weaker than brass, and although a plastics fitting can provide very satisfactory service given proper treatment and respect, it can suffer mechanical damage particularly during fitting procedures. One particular problem is "cross-threading" the back nut on the shank of the fitting.

It is an object of the present invention to try to minimise this risk.

According to the present invention there is provided a water fitting having a screw

threaded hollow shank a water inlet and mounting member, the shank being of plastics material, there being a back nut and washer, the fitting being adapted to have the shank passed through a standard fitting hole (being a size as hereinafter defined) in sanitary ware without removing the nut from the shank, and the washer being slidable onto the shank between the back nut and the ware without removing the nut to hold the fitting on the ware when the nut is tightened.

Preferably an end portion of the shank is of metal and conveniently this end portion can be provided by a part which is also effective to hold the nut captive on the shank. This part can be a commercially available metal part which is screwed onto the end of the shank at its one end and provides, at its other end, the metal end portion.

In order that the invention can be clearly understood reference will be now be made to the accompanying drawings in which:—

Figs. 1 and 1A show somewhat schematically a plastics water tap according to an embodiment of the present invention,

Fig. 1B shows an alternative washer for use with the tap in Fig. 1 and instead of the washer of Fig. 1A.

Referring to Fig. 1 of the drawings a water fitting is in the form of a tap 1 having a handle 2 and an outlet spout 3. The tap has a hollow threaded shank 4 which forms the water inlet and mounting member for the tap.

The shank carries a back nut 5 and a C-shaped washer 6 having a slot 7 large enough to enable the washer to be slid on and off the shank 4. The nut 5 differs from the conventional back nut in that the flange which is normally integral with the nut has been omitted, enabling the nut to pass through the standard fixing hole in the sanitary ware. Also the C-shaped washer, shown clearly in Fig. 1A has the dimension *a* slightly less than the dimension *b* so that the washer is a push-fit on the shank 4 and will be retained on the

shank. It is removable by manual effort but will not fall off merely under the influence of, for example, gravity.

Most if not all of the tap is of plastics material although some inner functional part of the tap may be of metal or rubber. The shank is of plastics material as is the C-shaped washer and the back nut, although the latter two items could be, respectively, of steel and brass or zinc based die-cast. The plastics shank 4 has a part 9 providing a metallic end portion 8, preferably of brass. The part 9 has an internally screw-threaded portion by which it is simply screwed onto the plastics shank 4. The part 9 is a commercially available item.

To mount the fitting on for example a wash basin or bath or other sanitary ware, the shank complete with its back nut 5 and part 9 is inserted through the fitting hole in the sanitary ware, the C-shaped washer is then replaced on the shank between the back nut 5 and the underneath of the sanitary ware, and the back nut is then tightened against the C-shaped washer to hold the fitting on the sanitary ware.

In this manner it can be seen that the back nut is never removed from the shank and therefore the chance of cross-threading the back nut with the shank does not arise. Also the metal end portion 8 of the shank provides a more robust cross threading of pipe connection and heat resistant connecting part to the pipe-work than would be offered by the plastics material alone of the shank 4. It also significantly reduces the risk of cross-threading when making a pipe connection to the end portion 8. It is possible for the end portion 8 to form a compression fitting of well known type.

Fig. 1B shows an alternative to the C-shaped washer in which the washer 10 is O-shaped with a split or gap 11 and is of flexible resilient plastics material such as nylon. The split or gap 11 can be widened sufficiently to enable the washer to be slid onto the shank 4.

It is to be understood that the invention is not limited to a water fitting with a single shank such as 4 but could be applied to, for example, a mixer tap having two shanks providing water inlets for, for example, hot and cold water.

The description and claims refer to a standard fitting hole. The size of such a hole

is herein defined as the size laid down in the relevant Standard covering the manufacture of the sanitary ware. Currently, basins are covered by British Standard 5506, Parts 1 and 2, and also relate to European Proposals EN.31 and EN.32 respectively. Basins are also manufactured in accordance with the requirements of British Standard 1188. The tap hole size in all these documents is 30mm minimum 32 mm maximum.

Baths are manufactured mainly in accordance with

British Standard 1189 — Cast Iron  
British Standard 1390 — Sheet Steel  
British Standard 4305

The diameter of tap holes in these specifications is 36mm minimum, 38mm maximum.

#### WHAT WE CLAIM IS:—

1. A water fitting having a screw threaded hollow shank forming a water inlet and mounting member, the shank being of plastics material, there being a back nut and a washer, the fitting being adapted to have the shank passed through a standard fitting hole (having a size as hereinbefore defined) in sanitary ware without removing the nut from the shank and the washer being slidable onto the shank between the back nut and the ware, without removing the nut, to hold the fitting on the ware when the nut is tightened.

2. A fitting according to claim 1, wherein an end portion of the shank is of metal.

3. A fitting according to claim 2 wherein, the end portion is provided by a part also effective to hold the nut captive on the shank.

4. A fitting according to claim 2 or claim 3, wherein the end portion comprises a metal part screwed onto the end of the shank.

5. A fitting according to any preceding claim wherein the washer is of C-shaped configuration.

6. A tap substantially as hereinbefore described with reference to and as illustrated in Fig. 1 and Fig. 1A modified or not by Fig. 1B of the accompanying drawings.

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COMPLETE SPECIFICATION

1 SHEET

*This drawing is a reproduction of  
the Original on a reduced scale*

FIG.1.

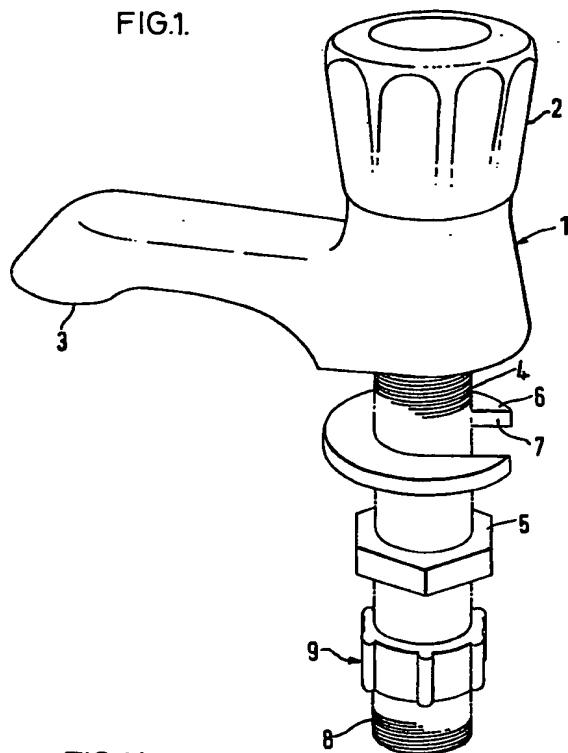


FIG.1A.

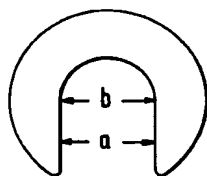


FIG.1B.

